Regulation of iPS Cell Induction by Wnt/beta-catenin Signaling.

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Public Summary:

Scientific Abstract:
Wnt signaling has been implicated in promoting somatic cell reprogramming. However, its molecular mechanisms remain unknown. Here we report that Wnt/beta-catenin enhances iPSCs induction at the early stage of reprogramming. The augmented reprogramming induced by beta-catenin is not due to increased total cell population or activation of c-Myc. In addition, beta-catenin interacts with reprogramming factors Klf4, Oct4 and Sox2, further enhancing expression of pluripotency circuitry genes. These studies reveal novel mechanisms underlying the regulation of reprogramming somatic cells to pluripotency by Wnt/beta-catenin signaling.